Keepsake Box

BY VERN GRASSEL

Make a treasure chest that will be treasured

This keepsake box features a clever opening mechanism and a secret bottom compartment. It's a perfect project to mass-produce for holiday gift giving.

If you've been agonizing over gift ideas for the holiday season, this keepsake box could well be the solution to your quandary. Crafting it is a good exercise to fine-tune your woodworking techniques, and because it's small and has few parts, it's an ideal project for creating in multiples. You can make it naturally beautiful by using contrasting wood species, and for added appeal, the box has a false bottom that conceals a secret compartment for storing special treasures.

This project requires a few standard shop tools (such as a table saw, a drill, a band saw and a router) and a few hand tools, including chisels and a dovetail saw. You'll need less than 4 bf of lumber — you may already have some special boards in your shop that are perfect for this box — and no hardware.

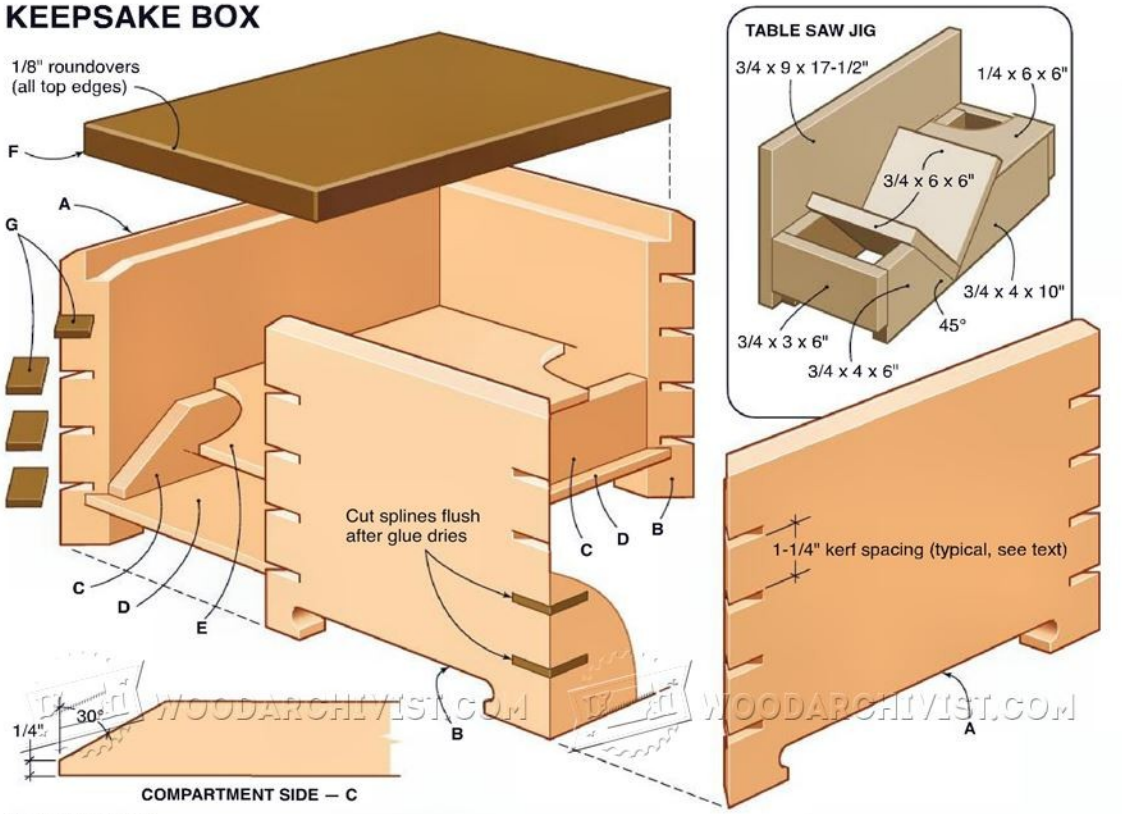
The box pictured measures 7-1/2 in. high x 8 in. wide x 12 in. long. If you want to change the size, simply adjust the dimensions to accommodate the width of the boards that you have. (Note that the false bottom is less obvious if the sides are tall and the hidden compartment is short.)

Make the parts

For the parts to fit properly and for the mitered corners to mate, the stock you use must be perfectly flat. It should be milled to the correct thickness before you cut the parts to size. You'll quickly get the best results with a jointer and a planer, but a good hand plane and a little elbow grease and patience can also produce excellent stock. If you lack the equipment or are uncomfortable milling the stock yourself, you can buy milled boards at most lumberyards and home centers, although the selection might be limited.

Cut all of the parts to roughly the finished size. I prefer to leave the ends of the box front, back and sides square until I've completed most of the other milling steps; then I cut the miters. If you're concerned about making a mistake with expensive boards, you might want to make a prototype out of inexpensive or scrap

KEEPSAKE BOX



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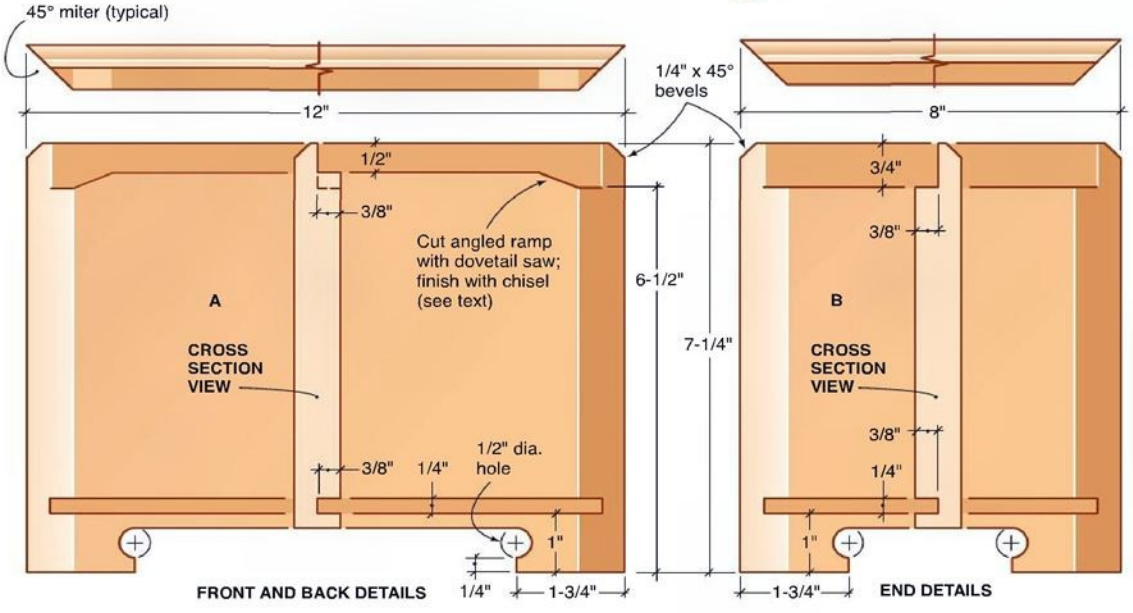


wood to ensure that the finished parts are the correct size and will fit together properly.

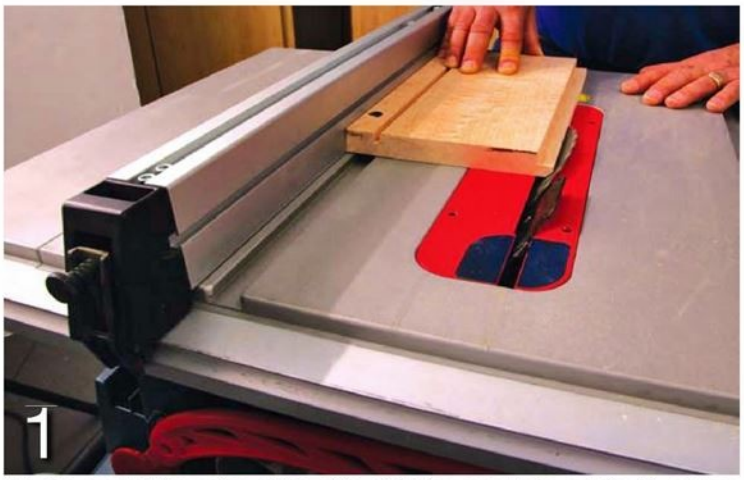
Drill the 1/2-in. holes in the front, back and sides that form the inside edges of the box feet (see illustration, opposite). Do not cut away the waste between the feet until you've completed all of the other milling, including mitering the corners.

Use a table saw equipped with a dado blade to cut the 1/4-in.-wide x 3/8-in.-deep dado for the bottom. (A router mounted in a router table is a good alternative.) Then adjust the rip fence to cut a 3/8-in.-deep x 1/2-in.-wide rabbet on the top inside face of the front and back (A) and a 3/8-in.-deep x 3/4-in.-wide rabbet on the top inside face of both sides (B).

Remount the normal saw blade in the table saw and tilt the blade to 45 degrees; then bevel the top edge of the box sides (photo 1, right).

The top opens when you push down on one end so that it pivots into the deeper rabbets in the sides. I used a dovetail saw to cut an angle on the ends of the front and back rabbets (photo 2) to create a pivot point for opening the top. After you assemble the box, you can clean up the angles and create a smooth transition between the rabbets using a sharp chisel.

To cut the box's corner miters, I attached a sacrificial backup board to my miter gauge and used a spacer block clamped to the table saw rip fence (photo 3, p. 10). Once you've cut all of the miters, you can use a band saw or a jigsaw to cut out the waste between the feet (photo 4), which completes the milling of the box sides. Sand all inside faces of the front, back and sides before assembly.



Cut the beveled top edge of the side with the saw blade set to 45 degrees. (Note: The blade guard was removed for photo clarity.)

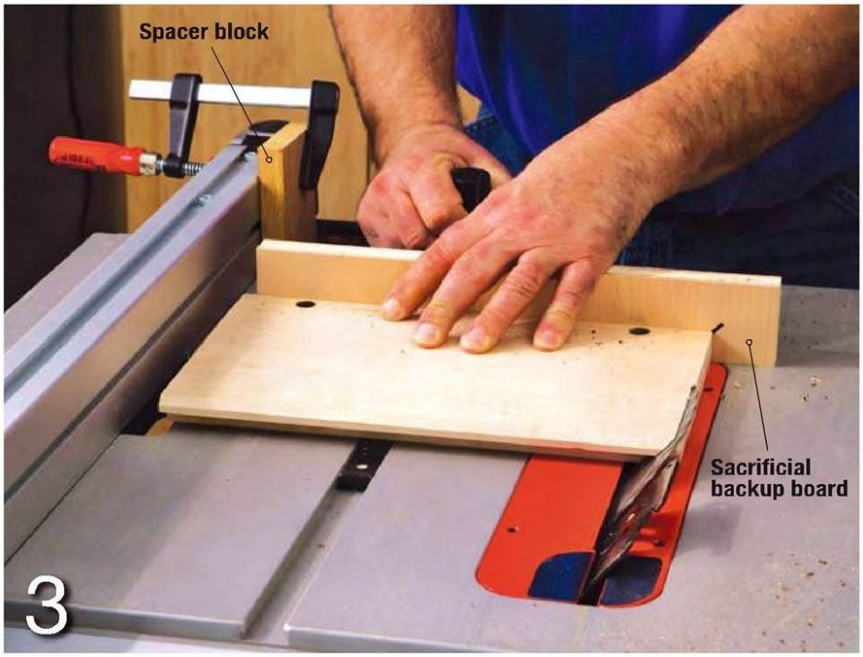
Use a dovetail saw or backsaw to cut the angled ramps in the front and back rabbets for removing the top. Clean the sawn edges with a sharp chisel.

CUTTING LIST

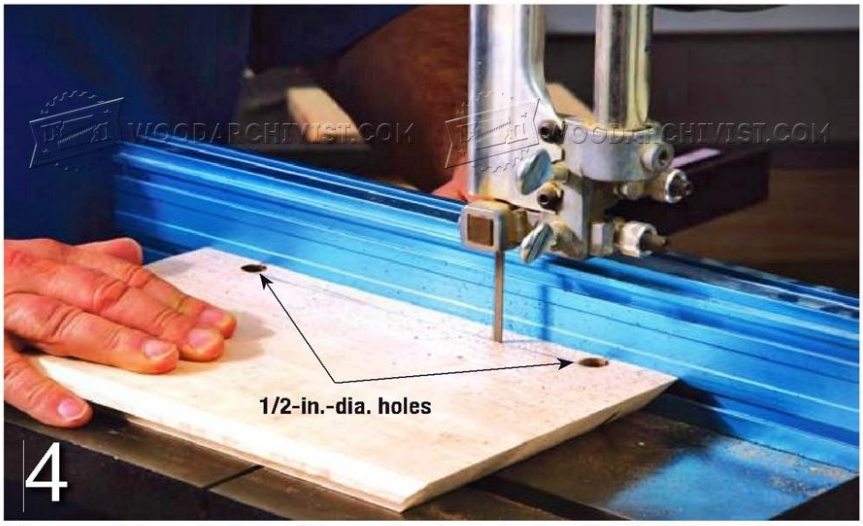
Key	No.	Description	Dimensions
A	2	Front/back (maple)	3/4 x 7-1/4 x 12 in.
B	2	Sides (maple)	3/4 x 7-1/4 x 8 in.
C	2	Compartment sides (maple)	3/8 x 1-1/4 x 10-1/2 in.
D	1	Bottom (maple plywood)	1/4 x 7-3/16 x 11-3/16 in.
E	1	False bottom (maple plywood)	1/4 x 6-1/2 x 10-1/2 in.
F	1	Top (walnut)	3/4 x 7-1/4 x 11-1/4 in.
G	16	Splines (walnut)	1/8 x 3/4 x 2 in.

Assemble the parts

Lay out the front, back and sides on your workbench so that the inside faces are against the bench top. Align all of the outside edges and secure them with masking tape (photo 5). Carefully flip the entire assembly over and apply glue to the mitered edges. Then insert the bottom panel (D) and draw the miters together (photo 6, p. 12). Square up the box and use band clamps to tighten the joints (photo 7). Check again that the assembly is square, and be sure the box sits flat and isn't twisted. You



Make the miters in the ends of the front, back and sides using a miter gauge and a backup board. Note the spacer clamped to the fence to prevent binding.



After completing all other milling on the front, back and sides, cut out the waste between the previously bored 1/2-in.-dia. holes to make the feet.

can scrape off any glue squeeze-out once it sets to a gummy consistency.

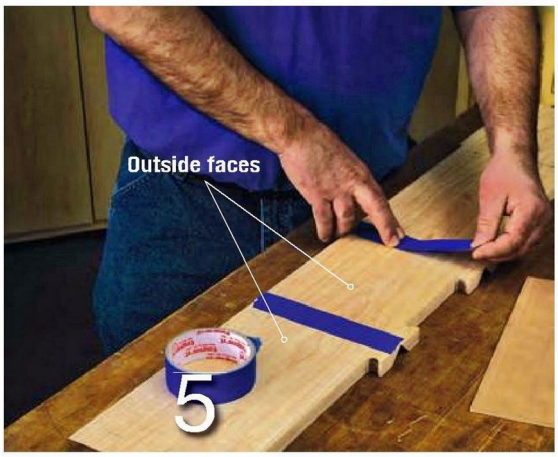
To make the hidden compartment, simply glue in the sides (C) that support the false bottom (E). (Note that the compartment sides have angles cut in the ends so you can remove the false bottom by pushing on one end, just as you open the top.)

Set the box aside so the glue can cure for a couple of hours, and turn your attention to completing the top (F). I made it out of walnut to provide contrast with the sides and to match the splines.

Trim the top to fit in the top rabbet with a 1/16-in. to 1/8-in. gap to allow for wood expansion. I used a router and a 1/8-in. round-over bit to ease the edges of the top.

Make the splines and jig

The corner splines (G) are both decorative and functional. Without reinforcing splines, the miter



With the inside faces of the box against the bench top, butt the edges of the miters and secure them with masking tape.

joints would have little strength because end grain and PVA woodworking glue form a very weak bond. The splines provide the necessary long-grain glue-contact area to ensure that the miter joints will never come apart.

Make the splines the same thickness as the width of your saw blade's kerf. The easiest method is to use the same type of table saw miter-gauge setup used to cut the box miters. As an alternative, you can rip the pieces with a band saw. (WARNING: Never attempt to cut thin pieces such as splines between the table saw blade and the fence without a spacer block — that can cause binding and dangerous kickback.) The splines should fit snugly — you should be able to slide them in and out by hand — but you risk splitting the workpieces if they're too tight.

I built a simple table saw jig to cut the corner kerfs for the splines (see illustration and photo 8 and inset) out of 3/4-in. plywood scraps that I glued and stapled together (being careful not to staple where the kerfs were going to be cut). To use the jig, decide on the location of your splines and set the table saw fence at the appropriate distance from the blade. For this 7-1/2-in.-tall box, I set the rip fence at 2-1/4 in. and then 3-5/8 in. and made cuts with both the top and bottom of the box against the jig fence. Hold the box in the

Flip the taped assembly over; then apply glue to the mitered edges, insert the bottom into its dado, and fold the box around the bottom.

Use band clamps to draw the joints tightly together. Be sure that the assembled box is square and that it sits flat on the bench top and doesn't rock.

To cut the spline kerfs, slide the jig against the table saw fence. Adjust the blade elevation gradually to achieve the right depth of cut.

Glue the splines into the kerfs. The grain should run the length of the splines, and they should fit snugly but easily into the kerfs.

Cut off the spline excess with a flush-cut pull saw. Be careful not to mar the box faces. Sand the splines or use a scraper to make them flush.

saddle and slide the jig along the rip fence.

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Brush glue onto the splines and insert them into the corner saw kerfs (photo 9). Once the glue sets, trim the splines with a flush-cut saw (photo 10) and then sand them flush.

Finish the box

Sand the entire box, starting with 150-grit and finishing with 220-grit. Be sure to sand in the direction of the grain. You can use a power sander; an inline pad sander (hard to find nowadays) is preferable to any orbital sander, which will cause swirls. However, it's always best to hand sand with the final grit.

I applied three coats of wipe-on polyurethane to protect the wood and bring out its natural beauty. This finish has an attractive "close-to-the-wood" look that resembles buffed wax. Of course, you could use your choice of stain or paint to make each box you create a unique gift. ◇